

Systems Manageability

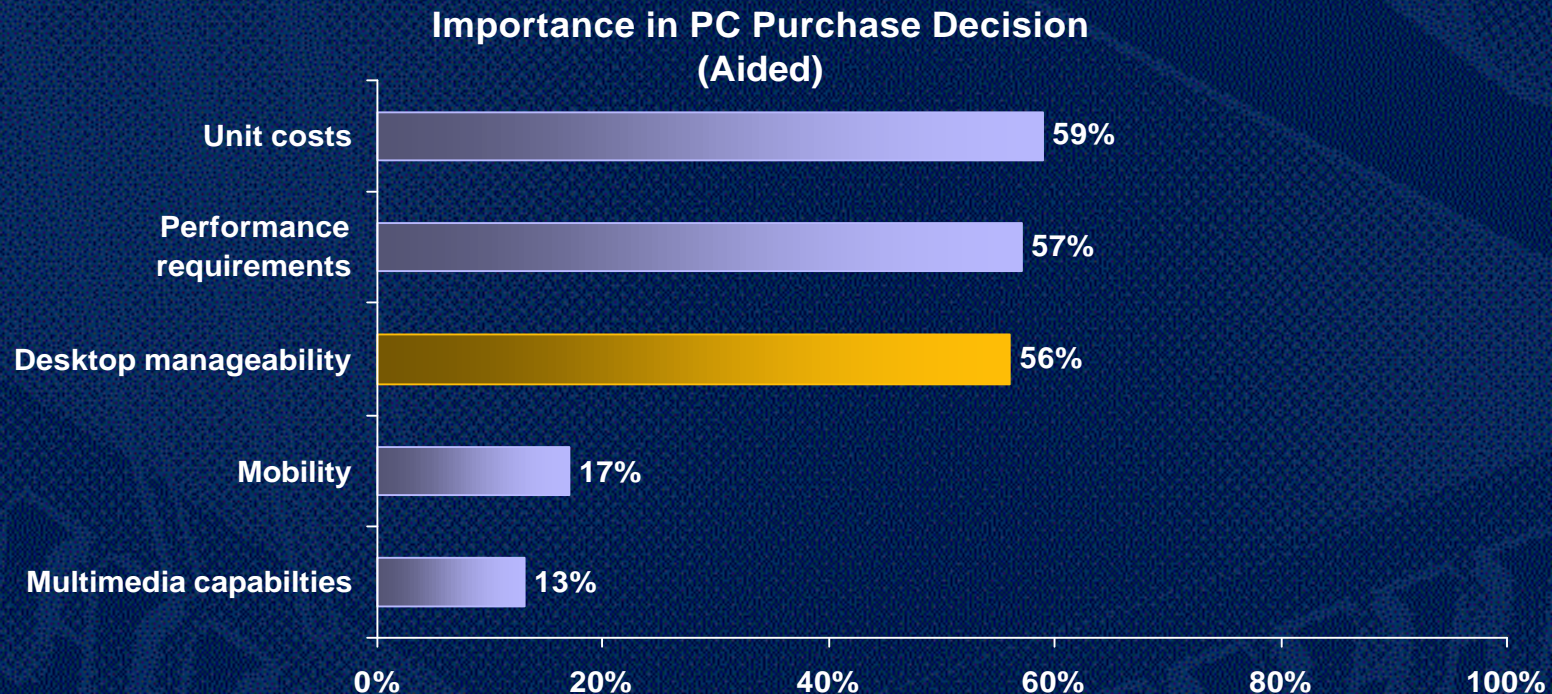
**Bob Meinschein
Engineering Manager
Managed Platform Lab
Intel Architecture Labs**

Agenda

- ◆ **Why Systems Management?**
- ◆ **Key ingredients for a well-managed system**
- ◆ **Management with Windows NT 5.0**

Why Systems Management?

- ◆ Manageability is a key hardware purchase criterion



Note: 8-10 on 1-10 scale

Source: Intel Large Business
Technology Direction Study, Oct. '97

Systems Management

Reducing cost of ownership

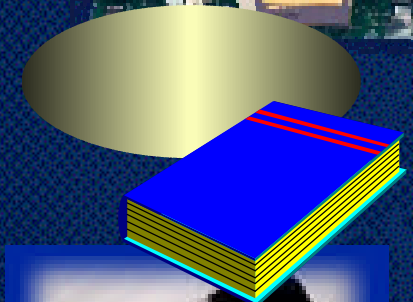
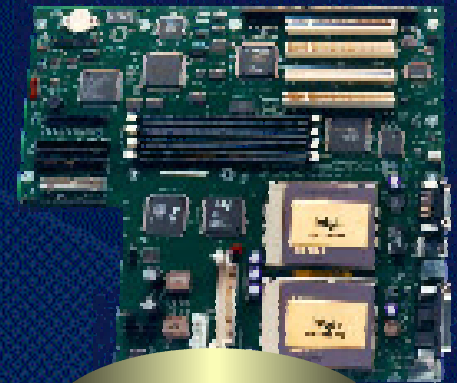
- ◆ **Intel's WfM focuses on standards-based management solutions for interoperability and building of intelligence into IA-based hardware platforms**
- ◆ **Microsoft's ZAW focuses on standards-based management solutions for interoperability and building of intelligence into Windows-based software platforms**

WfM and ZAW are complementary

Wired For Management

What is it?

- ◆ Intel initiative to reduce computing cost of ownership via management of hardware
- ◆ Components: specifications, technologies, products, end-user marketing
- ◆ WfM 1.1 Baseline Management capabilities:
 - ◆ Deployed by hardware vendors
 - ◆ Used by management applications
 - ◆ Reduces TCO of PC computing
- ◆ WfM and Windows 98/Windows NT
 - ◆ WfM Baseline 1.1a platforms complement current Windows platforms
 - ◆ WfM Baseline provides means to meet manageability requirements in MS/Intel joint design guides (PC 9x, WHIG, Server DG)

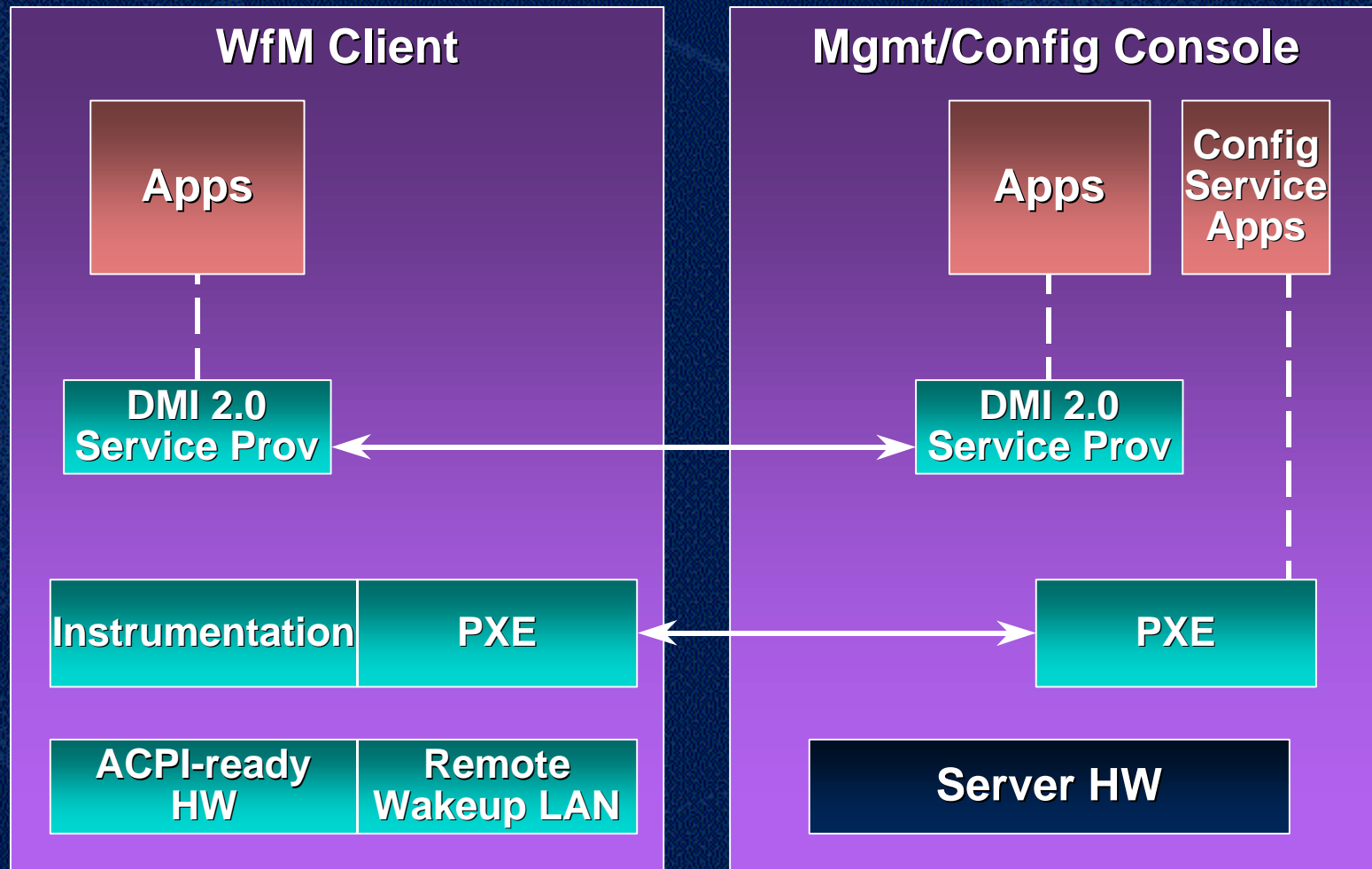


WfM Baseline 1.1a Technologies

Benefit area	Benefit	WfM Baseline 1.1a Technology
Investment protection	Mix-and-match platforms with apps	WfM Baseline
Asset management	Predictable level of management info	DMI 2.0 Baseline instrum.
System diagnosis and repair	Predictable level of management info	DMI 2.0 Baseline instrum.
Off-hours admin, power savings	Remote wakeup	ACPI HW Magic Packet TM
Over-the-network software deployment	Universal network boot	Preboot Exec. Env. (PXE)

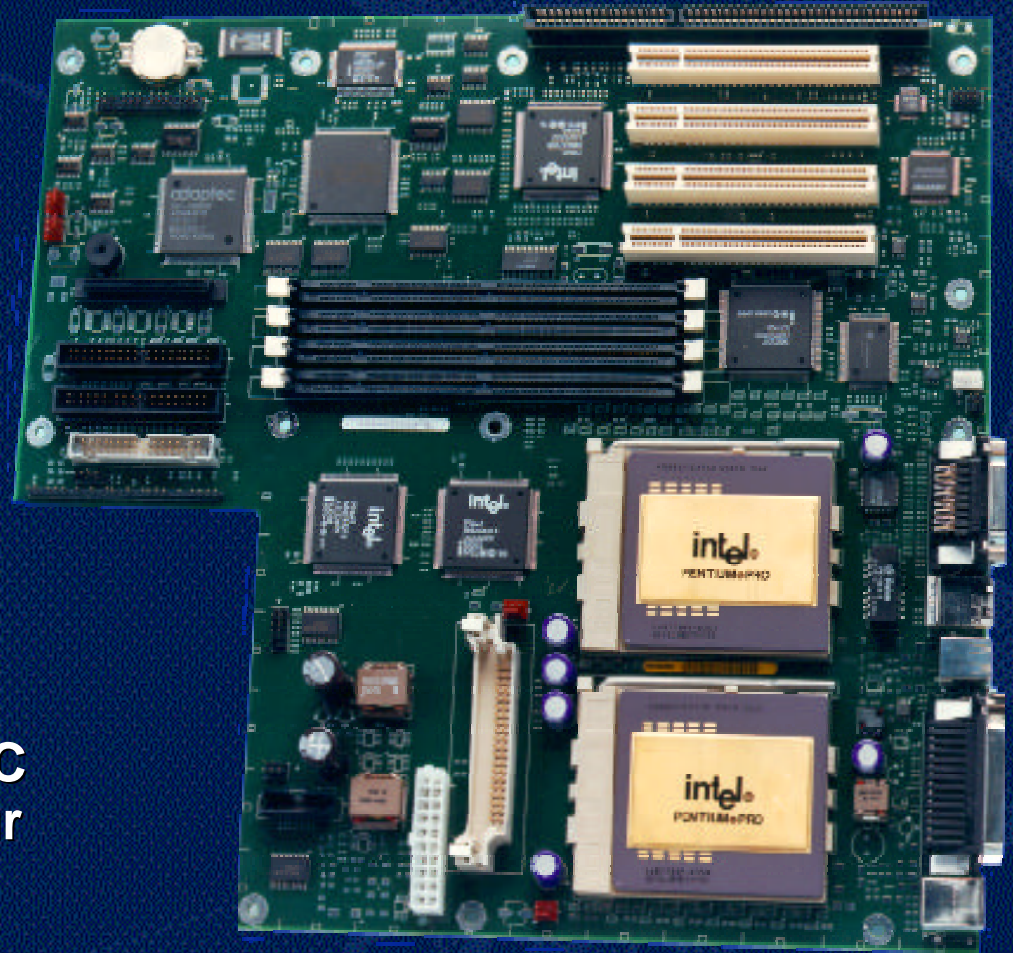
WfM Baseline 1.1a

Components

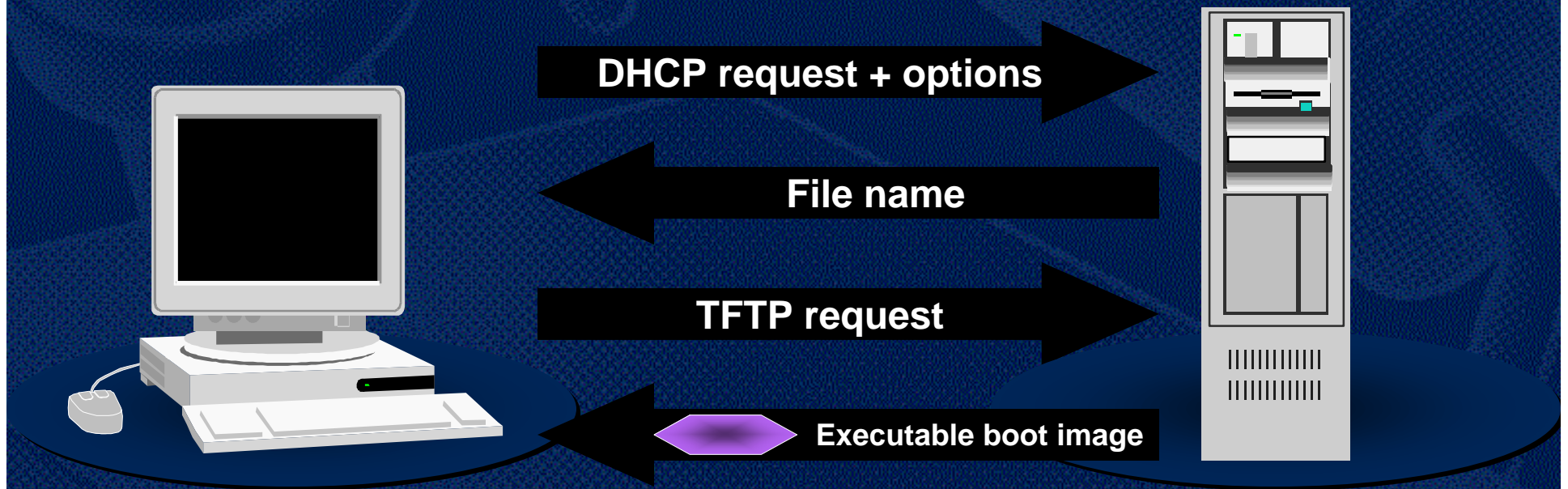


RWU/Power Management

- ◆ **OEM**
 - ◆ Develop/source ACPI-enabled motherboards and BIOS
 - ◆ Dual regulation power supply
 - ◆ Source ACPI-enabled add-ins
 - ◆ Add “WOL Header”
- ◆ **NIC Vendor**
 - ◆ Deliver ACPI enabled NIC cards and drivers to your customers
 - ◆ Add “WOL Header” to “add in” card design

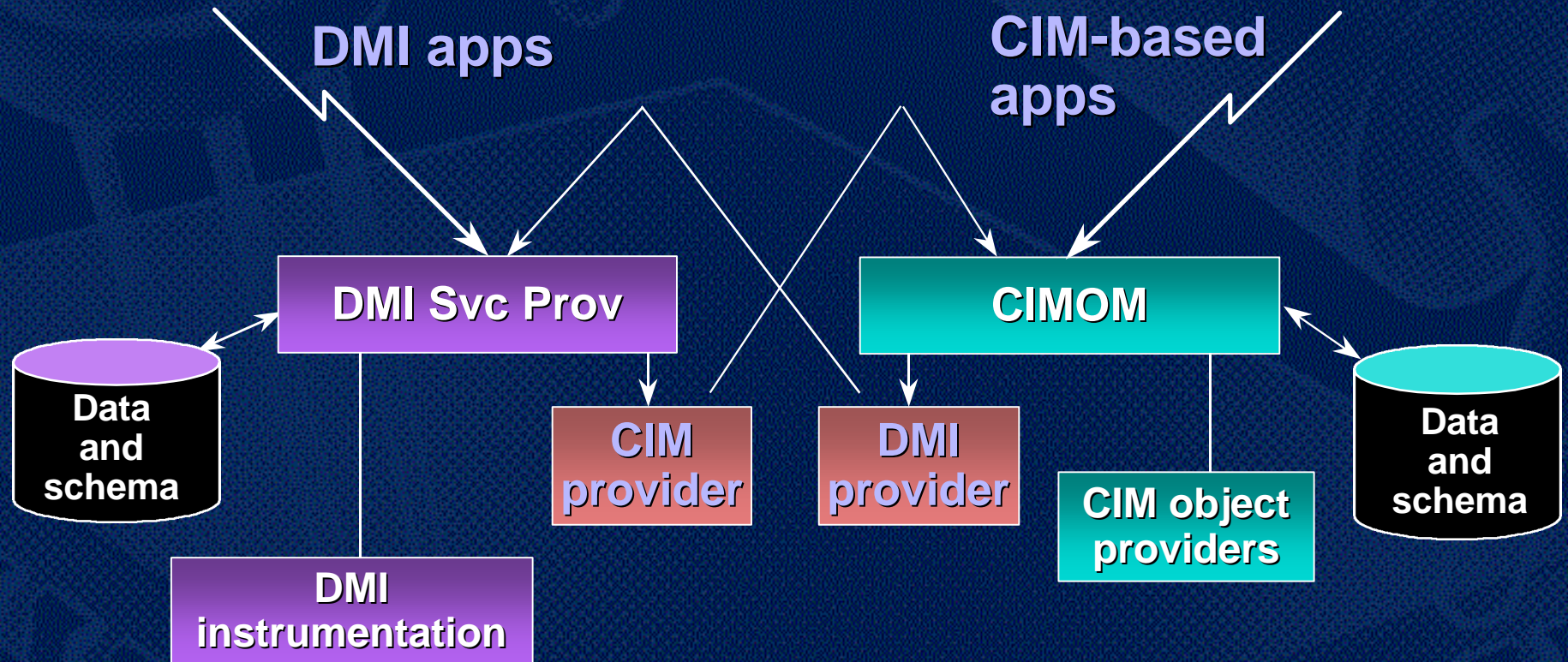


Universal Network Boot



- ◆ **OEM**
 - ◆ Integrate PXE Option ROM into your system design or source PXE enabled card
- ◆ **NIC vendor**
 - ◆ Offer PXE Option ROM to your customers

WfM 1.1a Instrumentation In Windows NT 5.0



Preserve investment of:

- ◆ Instrumentation developers
- ◆ Application developers
- ◆ Customers

Smooth integration with:

- ◆ CIMOM apps
- ◆ CIM Based Instrumentation

WfM System + Windows NT 5.0 = Managed Platform

WfM: Hardware and System Connectivity Management

- ◆ Common set of system information for asset management
- ◆ Automated system scheduling for off-hours maintenance
- ◆ Remote, unattended system network connectivity for OS or agent loading
- ◆ ACPI Power management

ZAW: OS and Software Management

- ◆ Automated, policy-based OS and application update
- ◆ Central user configuration and desktop control: roaming user
- ◆ Unified access to system information and instrumentation with WBEM
- ◆ OnNow/ACPI power management

**Standards-based, interoperable
management solutions**

Recommendations

- ◆ Build WfM Baseline v1.1a systems
- ◆ Develop WMI/CIMOM instrumentation for Windows 98 and Windows NT 5.0
- ◆ Watch for future WfM specs
- ◆ Refer to Microsoft/Intel joint docs
 - ◆ WHIG, PC 9x, Server Design Guides

We reduce TCO together

Backup

Collateral

List

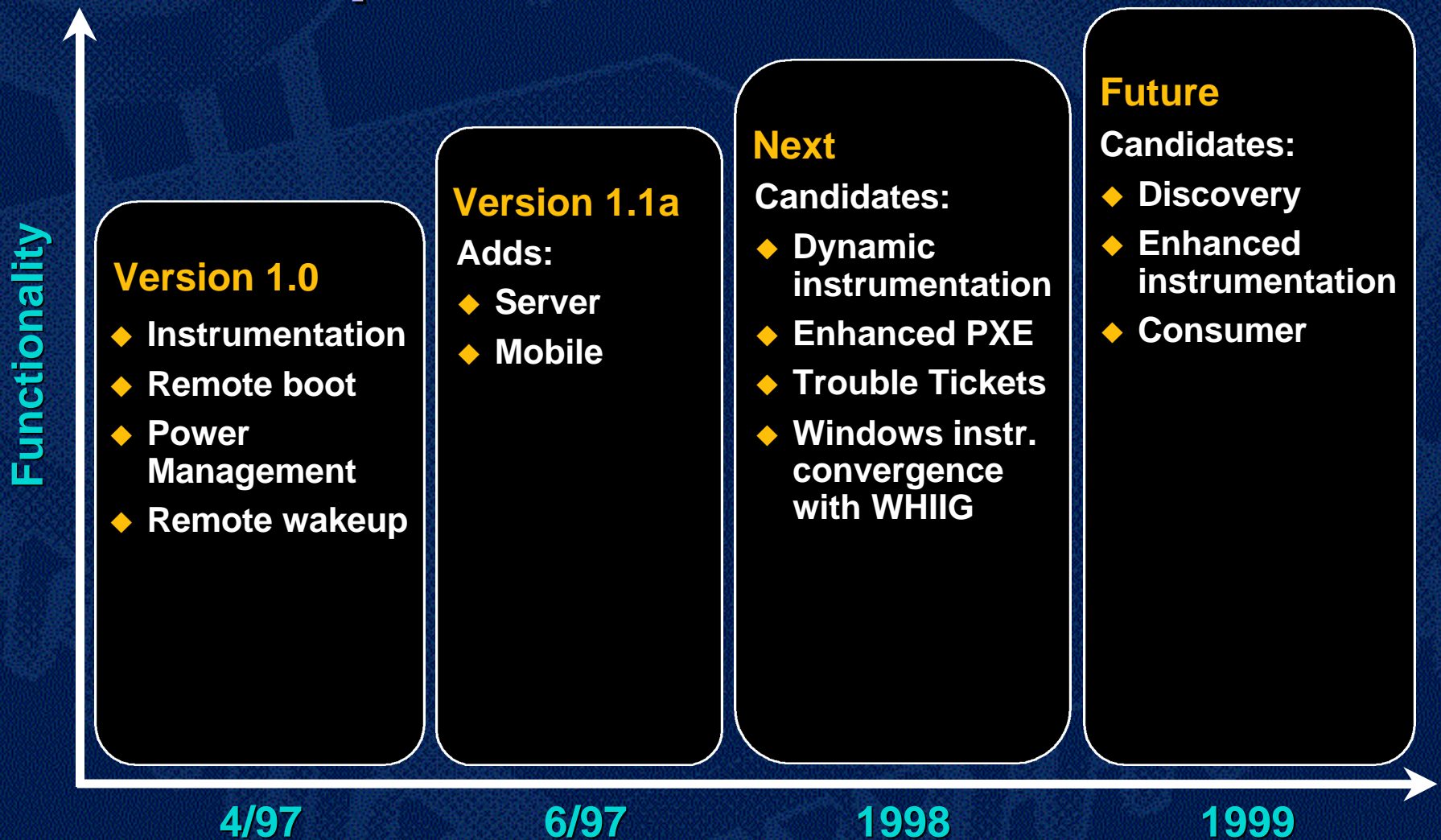
Win32 DMI 2.0 SP SDK
Netware DMI 2.0 SP SDK
DMI2SNMP mapper
“Colombus” DMI Browser
Wired-for-Management CD
PXE SDK
Intel Technical Support
Newsgroups and FAQs
MS CIM Object Manager
MS Windows Management Instrumentation
ZAW
DMI 2.0 specification
DMTF Technical Support
SNMP to DMI Mapping Standard
Common Information Model

Location

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WfM Baseline Specification

Roadmap



Hardware Vendor Opportunities

- ◆ WfM development kits and test tools
- ◆ Licenses to technology components
- ◆ Product licenses
- ◆ Testing facilities
- ◆ Interoperability and conformance events
- ◆ Showcase WfM 1.1a systems
- ◆ Joint PR activities

Complete building blocks for TTM product